# APPENDIX B

## STATEMENT OF WORK

### GASCO REMOVAL ACTION
### PORTLAND HARBOR SUPERFUND SITE
### PORTLAND, OREGON

## I. PURPOSE

The purpose of this Statement of Work (SOW) is to implement the Administrative Order on Consent for Removal Action (AOC).

The Work to be completed under this SOW shall include, but not be limited to, preparation, delivery, and implementation of the following:

1. Removal Action Work Plan (draft and final);
2. Removal Action Design;
3. Implementation of Removal Action;
4. Removal Action Completion Report (draft and final);
5. Monitoring and Reporting Plan; and
6. Community Involvement Activities.

Removal activities shall be completed in accordance with Table 1 of this SOW. The removal action shall be implemented during the summer 2004 work window, or as otherwise approved by the Environmental Protection Agency (EPA).

The Respondent will coordinate monthly meetings and/or teleconferences with EPA, Oregon Department of Environmental Quality (DEQ), the Tribes, and the Trustees to discuss the status of work described in this SOW and the approved Removal Action Work Plan (RAWP). Monthly meetings may be cancelled or postponed upon agreement of EPA.

## II. WORK TO BE PERFORMED BY RESPONDENT

Work to be completed under this SOW shall also include activities necessary to achieve the criteria and performance standards contained in the SOW, Action Memorandum, Removal Action work plan, or any other report, or deliverable approved under the AOC and this SOW.

The primary removal action objectives for this project are:

1. Removal of tar containing high concentrations of total polycyclic aromatic hydrocarbons (tPAH) in river sediments and the riverbank adjacent to the Gasco facility (the "Tar Body"). EPA has determined that the Tar Body represents an imminent and substantial threat to human health and the environment, as specified by the April 28, 2004 Action Memorandum. Respondent neither admits nor denies this determination;
2. Removal of the Tar Body to a depth that leaves a surface of lesser tPAH concentration upon which thin barrier placement or a pilot cap will be evaluated.
3. If technically appropriate based upon the design characterization study, field observations or other data, creation of a bathymetric "low spot" after removal has occurred such that potential seepage of material may be captured in a localized area for future response;
4. Prevention of contaminant migration of tar from the Tar Body to adjacent sites through early removal of the Tar Body;
5. Monitoring to determine if seepage from upland sources occurs that recontaminates the removal action area and evaluation to determine if additional removal is necessary, as described in an approved Monitoring and Reporting plan;
6. Demonstrate compliance with ARARs, to the extent practicable, including, but not limited to: the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Clean Water Act Section 404 (404), Endangered Species Act (ESA), and other Applicable or Relevant and Appropriate Requirements (ARARs) specified in the Action Memorandum and RAWP; and
7. To the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action with respect to the release of hazardous substances from the facility.

RAOs will be further specified in the removal action work plan for EPA review and approval.

Respondent shall complete the following tasks:

**1. Removal Action Work Plan**

Respondent shall submit a Work Plan that will include a summary of existing information, a project work plan, a Sampling and Analysis Plan (SAP), transportation/disposal plan (TDP), Health and Safety Plan (HASP) and other information set forth below. The TDP, 404 and Biological Assessment (BA) will be incorporated into the design documents as described below.

- Procedures for addressing and protecting cultural resources in the Removal Action Area;

- Identification of additional Removal Action Objectives and refinement of those stated above;
- SAP (and associated HASP) describing data collection activities needed to develop the removal design;
- Process for evaluation of floodway and floodplain impacts to ensure that the Removal Action achieves no unacceptable increase in base flood elevation, and if appropriate, balance cut and fill for any encroachment into the river;
- Removal action project plan describing the sequence of activities; and
- Schedule for completion of all project tasks including the Removal Action.

Draft and Final versions of the Removal Action Work Plan shall be submitted to EPA for review and approval in accordance with the schedule set forth in Table 1 of this SOW, or as otherwise approved by EPA.

**2. Design Characterization Sampling**

The Respondent shall conduct sampling as described in the Work Plan SAP and approved by EPA to collect information sufficient to design the removal action. The sampling is expected to include, but is not necessarily limited to:

- Collection of sediment cores or probes from in and near the Tar Body for physical characterization to delimit the extent of the Tar Body
- Select chemical analysis of samples in those sediment cores or probes, particularly at the bottom of the cores/probes to determine the depth of the Tar Body

The parties acknowledge that Respondent is conducting additional characterization sampling regarding upland sources of contamination under DEQ's oversight during 2004. Any useful information from such characterization work available under the schedule attached to this SOW will be considered for purposes of this removal action.

**3. Project Design Documents**

A. Concept Design

Information from the design characterization sampling will be used by the Respondent to develop a concept level design. That report will include:

- Presentation of removal design options, evaluation of those options, and a recommended design for implementation (a streamlined equivalent to a 30% design).
- Presentation of all sampling results, quality assurance reviews, and other data evaluations that may be conducted to support the alternative evaluation and recommended alternative development.
- For the recommended alternative:

- TDP, (as described below), including procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable;
- design dredge or excavation depths and overcut allowances, dredged or excavated material volumes, and dredging or excavation techniques;
- Preliminary draft Biological Assessment for the Removal Action (as described below);
- Analysis of measures (as described below) required to avoid or minimize adverse impacts on the aquatic environment from the Removal Action and, if appropriate, mitigation for unavoidable impacts in accordance with Section 404(b)(1) of the CWA, including, but not limited to control of any NAPL (non-aqueous phase liquid) that may be released during the removal;
- Removal action project plan describing the sequence of activities;
- Schedule of activities for completion of the Removal Action, including inspections, meetings, and documents referenced in this task;
- Removal action HASP that is designed to protect personnel from physical, chemical and other potential hazards posed by this Removal Action;
- Construction quality assurance plan (CQAP) (as described below) and statement of qualifications (for the construction contractor). The CQAP will describe in detail the methods for direct measurements to be made during construction to ensure RAOs and performance standards will be met;
- Removal action environmental protection plan including steps to be taken for reducing negative or adverse effects on the environment and community (if any) during the construction phase(s);
- Access and easement requirements, and substantive requirements of permits;
- Operation and Maintenance Plan;
- An outline of the monitoring and reporting plan; and
- Procedures for processing design changes and securing EPA review and approval of such changes to ensure changes are consistent with the objectives of this Removal Action; and
- If necessary and to the extent practicable, provision for post-removal site control to ensure the effectiveness and integrity of the removal action after completion of the on-site removal action.

**Health and Safety Plan.** The HASP shall follow EPA guidance and all OSHA requirements as outlined in 29 C.F.R. 1910 and 1926. Respondent may utilize existing HASP project documents or other company/contractor HASPs provided that Respondent demonstrates the HASP has been modified, as necessary, or otherwise sufficiently addresses the activities covered by this SOW.

**Biological Assessment (BA) Memorandum** In order to identify the presence of threatened, endangered, proposed or candidate species, or their habitat, within the vicinity of the Removal Action Area, Respondent will prepare, for EPA approval, a draft BA to support compliance with the substantive requirements of the Endangered Species Act (ESA). The draft BA will characterize baseline conditions of existing habitat; address potential project impacts that the Removal Action may have on these species, their habitat, and their food stocks; and describe best management practices and conservation measures designed to avoid or minimize any adverse impacts. EPA, with the support of Respondent, will consult with the appropriate ESA agencies before and during implementation of the removal action on the proposed removal action to ensure that the substantive requirements of the ESA are met.

**Clean Water Action Analysis**: Respondent shall demonstrate through project design documents compliance with the substantive requirements of Section 404(b) (1) of the CWA to the extent practicable. The Removal Action Work Plan shall document the information gathered regarding practicability and cost, long- and short-term impacts from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation.

**Transportation and Disposal Plan:** The Respondent will develop a Transportation and Disposal Plan (TDP) for any material that is to be removed from the site for EPA review and approval. The TDP will describe details of the disposal of waste materials, including identification of an appropriate landfill, if applicable, and the source of any imported materials. The TDP shall also include information on sediment transloading (from water transport to land transport, barge, etc.), stockpiling, dewatering, and overland transport The TDP should also include precautions that will be used to safely transport and dispose of the material, and describe contingencies for spills that might occur.

**Construction Quality Assurance Plan**. The CQAP shall detail the remediation verification method and approach to quality assurance during construction activities in the project area, including compliance with ARARs, to the extent practicable. The Plan will describe the methods used to measure compliance with measurement quality objectives (such as performance and method requirements), including target dredge or excavation depths, if appropriate. The Plan will include, as an attachment, a Draft Removal Action Sampling and Analysis Plan which shall include a field sampling plan and a QAPP. If the selected alternative includes capping, performance monitoring will include characterization of in-place capping materials (e.g., coverage and thickness). Performance monitoring will be performed to confirm that dredged or excavated material is properly staged, dewatered, and transported to a suitable disposal site; and that field construction activities are properly sequenced.

**Draft Water Quality Monitoring Plan and its associated Quality Assurance Project Plan and HASP.** The plan shall detail water quality monitoring to evaluate performance

relative to: (1) water quality standards as defined by substantive requirements of CWA Section 401 water quality certification (for compliance with the requirements in CWA Section 404(b)(1) guidelines) and/or (2) any allowed temporary exceedances of water quality standards. The plan shall include monitoring during any capping and dredging operations and where return-water from barges or de-watering (as appropriate) may affect the water column. The plan shall describe the specific water quality monitoring requirements, including a schedule; sampling locations; sampling intervals; sampling equipment and parameters; analytical methods; key contacts; reporting requirements (including daily reports); daily contacts for notifications of any exceedances; result summaries; and draft and final Water Quality Monitoring reports.

B. Final Design
Respondent shall prepare a final design document, consistent with the EPA approved and selected removal alternative, including construction plans and specifications, to implement the Removal Action and shall demonstrate that the Removal Action design meets all objectives of the Action Memorandum and RAWP. The final design shall include descriptions of the analyses conducted to select the design approach, including a summary and detailed justification of design assumptions and verification that design will meet performance standards. The final design package shall also include final versions of the concept design required components.

## 5. Implementation of Removal Action

As described in Table 1, Respondent shall provide notification to EPA thirty (30) days prior to initiation of construction fieldwork to allow EPA to coordinate field oversight activities.

Respondent shall complete the sediment Removal Action in accordance with the approved Removal Action Work Plan and Project Design Documents. The following activities shall be completed in constructing the Removal Action.

EPA and Respondent shall participate in a preconstruction meeting to:

- Review methods for documenting and reporting data, and compliance with specifications and plans including methods for processing design changes and securing EPA review and approval of such changes as necessary;

- Review methods for distributing and storing documents and reports;

- Review work area security and safety protocols, as appropriate;

- Demonstrate that construction management is in place, and discuss any appropriate modifications of the CQAP to ensure that project specific considerations are addressed;

- Discuss methods for direct measurement, including confirmation sampling of construction work to be used to ensure performance standards are met;

- If requested, conduct a Removal Action Area tour with EPA in the project area to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations, as appropriate.

Pursuant to the CQAP, weekly reports shall be prepared and submitted (electronically) to EPA for review during implementation of the Removal Action. Weekly reports shall include work performed, problems encountered and solutions proposed, water quality monitoring results, and work to be performed during the following week. If applicable, Respondent shall inform EPA of the off-Site disposal facility proposed to receive any debris or dredged/excavated materials from Removal Action Area.

Within seven (7) days after Respondent makes a preliminary determination that construction is complete, Respondent shall orally notify EPA for the purposes of scheduling a final inspection and/or meeting. Within fourteen (14) days after the final inspection and/or meeting, Respondent shall send a letter to EPA stating that construction is complete and responding to any outstanding issues that were raised by EPA during the final inspection/meeting.

**6. Removal Action Completion Report**

Within 60 days after completion of the construction phase of the Removal Action, Respondent shall submit for EPA review and approval a Removal Action Completion Report. This report shall contain a description of the Work described in the Removal Action Work Plan and the Work that was actually performed. In the report, a registered professional engineer and Respondent shall state that the Removal Action has been constructed in accordance with the design and specifications. The report shall provide as-built drawings, signed and stamped by a professional engineer, showing the area and depth of the location remediated. The final report shall include information on types of materials removed off-Site, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed (including a map showing the locations of any confirmatory samples), and accompanying appendices containing all relevant documentation generated during the Removal Action (e.g. manifests and permits). All analytical data collected during project implementation shall be provided electronically to EPA. The final Performance Monitoring and Water Quality Monitoring report may be submitted as an appendix to the Removal Action Completion Report. This Removal Action Completion Report shall contain a description of any

institutional controls that are in place, or engineering controls that are necessary to sustain the integrity of the Removal Action, along with copies of any agreements or other documents used to establish and implement such controls.

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> "Under penalty of perjury under the laws of the United States, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

**7. Monitoring and Reporting Plan**

Respondent shall prepare a Monitoring and Reporting Plan for Removal Action Area. The Monitoring and Reporting Plan shall be consistent with the design Operations and Maintenance Plan and include inspections and analyses to monitor the Removal Action implemented in the Removal Action Area.

The Monitoring and Reporting Plan shall describe monitoring objectives outlined in the RAOs, an overview of the monitoring approach, design of the monitoring program (e.g., sampling strategy, station locations and replication, field sampling methods, laboratory methods), data analysis and interpretation, reporting requirements, and a schedule. The Plan shall include, as appropriate, visual inspection, bathymetric survey, sediment deposition monitoring, chemical monitoring, and sediment samples in capped areas and non-capped areas (including excavated areas) to monitor for recontamination. Data from monitoring shall be assembled into reports and submitted to EPA in accordance with the schedule set forth in the Monitoring and Reporting Plan. Based on monitoring results, EPA shall determine if future response actions are needed to achieve the cleanup objectives.

**8. Community Involvement Activities**

If requested by EPA, Respondent shall provide information supporting EPA's community involvement program related to the Work performed pursuant to this Order, and shall participate in public meetings which may be held or sponsored by EPA to explain activities at the Removal Action Area or concerning Work performed pursuant to this Order. EPA will coordinate its community outreach efforts with DEQ.

## III. CONTENT OF SUPPORTING PLANS

**1. Sampling and Analysis Plans**

Respondent shall develop project-specific design characterization SAP comprised of a FSP and a project-specific QAPP for sample analysis and data handling for samples collected at the Removal Action Area. The design characterization SAP shall be based upon the AOC, SOW and EPA guidance.

The FSP will define in detail the sampling and data-gathering methods that will be used on the design characterization. It will include sampling objectives, a detailed description of sampling activities, sample locations, sample analysis, sampling equipment and procedures, sampling schedule, station positioning, and sample handling (e.g., sample containers and labels, sample preservation). The SAP will be prepared in accordance with "Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual" (EPA/823/B-01-002, October 2001). The content of the SAP shall include the type of information described in EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA/540/G-89-004).

The QAPP will describe the quality assurance and quality control protocols necessary to achieve required data quality objectives. The QAPP will be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001) and "Guidance on Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998). The QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and personnel qualifications. The laboratory performing the work must have and follow an approved Quality Assurance (QA) program, which complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by EPA. If a laboratory not in the EPA Contract Laboratory Program (CLP) is selected, the QAPP shall be consistent with the requirements of the CLP for laboratories proposed outside the CLP. Respondent will provide assurances that EPA has access to laboratory personnel, equipment and records for sample collection, transportation, and analysis.

All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain-of-custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance.

Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for quality-assurance monitoring. Respondent agrees that EPA personnel may audit any laboratory that performs analytical work under this SOW. Prior to awarding any work to an analytical laboratory, Respondent will inform the laboratory

that an audit may be performed, and that the laboratory agrees to coordinate with EPA prior to performing analyses.

Respondent shall provide to EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 14 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

All analytical data collected under this SOW shall be provided electronically to EPA.

**2. Health and Safety Plan**

The HASP(s) ensures protection of health and safety during the performance of work under the AOC and this SOW. HASPs shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the Removal Action.

**3. Construction Quality Assurance Plan**

The CQAP describes the project-specific components of the performance methods and quality assurance program to ensure that the completed project meets or exceeds all design criteria, plans, and specifications. The draft Plan shall be submitted with the Prefinal design and the Final Plan shall be submitted with the Final Design. The Final Plan shall be submitted prior to the start of construction in accordance with the approved construction schedule. The Plan shall provide requirements for the following elements:

- Responsibilities and authorities of all organization and key personnel involved in the Removal Action construction, including EPA and other agencies.

- Qualifications of the Construction Quality Assurance (CQA) Officer. Establish the minimum training and experience of the CQA Officer and supporting inspection personnel.

- Inspection and verification activities. Establish the observations and tests that will be required to monitor the construction and/or installation of the components of the

Removal Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and ensure compliance with all health and safety procedures.

- Performance standards and methods. Describe all performance standards and methods necessary to implement the removal construction. Performance monitoring requirements shall be designed to demonstrate that best management practices have been implemented during dredging operations, dredged or excavated material transportation, and cap placement.

- Sampling activities. Describe quality assurance activities associated with sampling and monitoring activities or refer to information described in the Water Quality Monitoring and Performance Monitoring Plans as described under Project Design Documents, above.

- Documentation. Establish the reporting requirements for construction quality assurance activities. This shall include such items as daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the AOC shall be included.

## IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE

The schedule for submission to EPA of deliverables described in the SOW is presented in Table 1.

| TABLE 1 – Schedule of Project Deliverables | | |
|---|---|---|
| 1. Removal Action Work Plan (including design characterization SAP) | Draft Removal Action Work Plan<br><br>Final Removal Action Work Plan<br><br>Design Characterization Sampling | Within 30 days of the Effective Date of the Order.<br><br>Within 20 days after receipt of EPA comments on draft Removal Action Work Plan.<br><br>Start within 10 days of approved RAWP, unless otherwise approved by EPA. |
| 2. Project Design | Concept<br><br>Final | As per RAWP schedule. |
| 3. Implementation of Removal Action | Notification of Removal Action Start<br><br>Removal Action Start | 30 days prior to initiation of Removal Action fieldwork to allow EPA to coordinate field oversight activities.<br><br>As per the approved design schedule.<br><br>Work must be implemented in the summer 2004 work window unless otherwise approved by EPA in the design schedule. Work will not begin until the construction related sections and components of the final design has approval from EPA. |
| 4. Removal Action Completion Report | Draft Removal Action Completion Report<br><br>Final Removal Action Completion Report | Within 60 days after completion of implementation of removal Action (construction phase).<br><br>Within 30 days after receipt of EPA comments on Draft Removal Action Completion Report. |
| 5. Monitoring and Reporting Plan | Draft Monitoring and Reporting Plan<br><br>Final Monitoring and Reporting Plan<br><br>Monitoring Data Reports | Within 60 days after EPA approval of the Final Design.<br><br>Within 60 days after completion of the removal action and receipt of EPA comments.<br><br>Schedule to be proposed by Respondent in the Monitoring and Reporting Plan. |
| Other deliverables | HASP, TDP, all other deliverables | Per approved RAWP schedule |

| TABLE 1 – Schedule of Project Deliverables | | |
|---|---|---|
| | Validated data | 30 days from sampling event, or as otherwise approved by EPA. |

Reference to EPA comments reflects EPA's consideration of comments, including comments from the Oregon DEQ, the Tribes, and federal and state Natural Resource Trustees.